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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,207	08/01/2003	Robert J. Petcavich	937-1535	3285
<div>7590 01/25/2008</div> <div>NIXON &amp; VANDERHYE P.C.</div> <div>11th Floor</div> <div>901 North Glebe Road</div> <div>Arlington, VA 22203-1808</div>				
			<div>EXAMINER</div> <div>CHAWLA, JYOTI</div>	
			<div>ART UNIT</div> <div>1794</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE</div> <div>01/25/2008</div>	<div>DELIVERY MODE</div> <div>PAPER</div>

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/633,207	Applicant(s) PETCAVICH, ROBERT J.	
	Examiner Jyoti Chawla	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/ are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 7, 2007 has been entered. Claims 1 and 12 have been amended and claim 3 has been cancelled. Claims 1, 2, 4-6 and 12 remain pending and are examined in the application.

### ***Specification***

The amendments filed November 7, 2007 are still objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure as discussed in the previous office action dated May 8, 2007. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The additional material, which is not supported by the original disclosure, is as follows:

Paragraph [0010] where the applicant has replaced one surfactant, i.e., Triton X, from the disclosure and replaced it with an entire generic class of surfactants by stating "from about 0.0001 to 10 percent surfactant, preferably Triton<sup>TM</sup>-X octylphenol ethoxylate surfactants commercially available from The Dow Chemical Company, Optional additional ingredients".

Paragraph [0016] and Paragraph [0027] also have similar changes made to the specification.

In response to the new matter objection the applicant has proported that Triton<sup>TM</sup>-X is the same as octylphenol ethoxylate surfactants commercially available from The Dow Chemical Company. Similarly Tergitol<sup>TM</sup> is the same as nonylphenol ethoxylate surfactants commercially available from The Dow Chemical Company. As evidence the applicant submitted printout of the pages from the DOW website with no date. There is insufficient evidence to the fact that Triton<sup>TM</sup>-X and Tergitol<sup>TM</sup> were trademarks for the class of chemical compounds octylphenol ethoxylate and nonylphenol ethoxylate

respectively at the time the invention was made. The applicant is urged to show proof that the Dow Company was using the trade names Triton<sup>TM</sup>-X and Tergitol<sup>TM</sup> to designate surfactants of chemical compounds known as octylphenol ethoxylate and nonylphenol ethoxylate respectively. Absent any clear and convincing evidence to that effect, the new matter rejection under 35 U.S.C. 132(a) is maintained for the reasons of record and the applicant is urged to cancel the new matter in the reply to this Office Action.

The objection to the specification paragraph [0029] because of the spelling errors have been withdrawn based on the corrections submitted in the amendment dated November 7, 2007.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 2, 4-6 and 12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the original specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 12 have been amended to include the terms "octylphenol or nonylphenol ethoxylate" to the surfactant and the original disclosure paragraphs [0010], [0016], [0027], [0032], and [0033] disclose of a surfactant, however there is no support that the surfactant is a octylphenol ethoxylate or nonylphenol ethoxylate surfactant as discussed above. Similarly claim 12 also includes the recitation of "surfactant selected from octylphenol ethoxylates and nonylphenol ethoxylates, which are not part of the original disclosure.

NOTE: Please refer to the new matter objection to the specification.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Rejection of claims 1-6 and 12 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter have been withdrawn in light of applicant's amendments filed November 7, 2007.

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

(A) Claims 1-2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al (US 2872325), in view of the combination of Nisperos Carriedo et al (US 5376391) and Liu (US 4710388).

Scott et al., hereinafter Scott, teaches a process of coating perishable foods by an emulsion of polymerized vinylidene chloride, i.e., polyvinylidene chloride (Column 2, lines 20-30), by dispersing in an aqueous phase with 1-5% emulsifier (surfactant) and an additional surface-active agent (Column 3, lines 36-58), which falls within the applicant's recited range of 0.0005% to 10%. Scott teaches solids content of 10-25% (Column 3, lines 2-5), and polyvinylidene chloride content of 88-91% of the total weight of the monomers present in the composition (Column 2, line 25). Thus Scott teaches polyvinylidene chloride content of 8.8 to 22.75% of the coating composition, which falls in applicant's recited range for claim 1 and 12. Scott teaches of a surfactant but is silent about specifically using Triton<sup>TM</sup>-X as a surfactant, as recited by the applicant in claims 1 and 12. Thus one of ordinary skill in the art at the time of the invention would have been motivated to look to the art for non-ionic surfactants in food coatings. Nisperos Carriedo et al., hereinafter Nisperos, teaches food coating composition with Polysorbate as one of the surface-active agents or emulsifiers used in the composition (Column 3, line 64 to Column 4, line 5). Also Liu et al, hereinafter Liu, teaches of a coating

composition for pineapple crowns, i.e., fruits, wherein the emulsifier used in the protective coating composition includes Triton<sup>TM</sup>-X and polysorbate under the name Tween<sup>TM</sup> (Column 3, line 67 to Column 4, line 2). Thus Triton<sup>TM</sup>-X and Tween<sup>TM</sup> were used as surfactants or emulsifiers in the art of food coating at the time of the invention. Further, Triton<sup>TM</sup>-X and Tween<sup>TM</sup> were known functional equivalents in the art. Therefore, one of ordinary skill at the time of the invention would have been motivated to modify the surfactant taught by Scott to another surfactant, such as, Polysorbate 80 (as taught by Nisperos) or Tween<sup>TM</sup> or Triton<sup>TM</sup>-X (as taught by Liu), in order to have an emulsifier that is highly water soluble to make an suitable coating composition that can be applied to fruits as an aqueous suspension. It would have been further obvious to one of ordinary skill in the art at the time the invention was made to substitute one art recognized functional equivalent (i.e., Triton<sup>TM</sup>-X ) for another (i.e. Tween<sup>TM</sup> or polysorbate 80) in the aerated confection as disclosed by Nisperos or Liu, depending on which of the emulsifying were more available and affordable at the time the invention was made. One of ordinary skill would have been further motivated to do so in order to have an emulsifier or stabilizer that is non-toxic and edible and thus is safe to be added to foods.

Regarding claim 2, Scott teaches Polyvinylidene chloride copolymer consists of 88-91% polyvinylidene chloride and 9-12% acrylonitrile (acrylic acid) as recited by the applicant (Column 2, lines 20-27).

Thus Scott in view of the combination of Nisperos and Liu teaches the invention as recited in claims 1-2 and 12, absent any clear and convincing evidence and or arguments to the contrary.

(B) Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott, in view of combination of Nisperos and Liu, as applied to claims 1-2 and 12 above, further in view of Yang et al (US 6165529).

Claims 1-2 and 12 are rejected as being unpatentable over Scott, in view of combination of Nisperos and Liu, as discussed above.

Regarding claim 4, Scott teaches a coating composition for produce with antimicrobial agents (Column 3, lines 12-13). However, the reference does not teach the actual amount of these agents in the coating composition. Since Scott does not disclose a specific range for antimicrobial agent, one of ordinary skill in the art would have been motivated to look to the art to find a similar product with antimicrobial agent. Yang et al, hereinafter Yang, teaches a coating composition for post harvest produce and composition taught by Yang contains 0.05-5% antimicrobial agents, such as, triclosan or methylparaben (Column 3, lines 31-33), which encompasses the range taught by applicant in claim 4. It would have been obvious to one with ordinary skill in the art at the time of the invention to modify Scott and add the amount of antimicrobial agent as taught by Yang in order to have sufficient amount of antimicrobial agent in the coating composition to help reduce the microbial deterioration of food. One would have been further motivated to vary the amount of antimicrobial agent in the coating composition as taught by Yang in order to make coating compositions that contain antimicrobial compounds in a concentration that will at least be suitable for the type of produce being coated, length of storage of produce (transportation/ ripening) and desired storage conditions (humidity, temperature etc.), absent any clear and convincing evidence and arguments to the contrary.

Regarding claim 6, Scott, Nisperos and Liu are silent as to the addition of antifoam in the coating composition for produce. Unwanted foaming was a known problem in making emulsions and it could be solved by the addition of antifoaming agents. Yang teaches addition of an antifoaming agent or surfactant, such as polydimethylsiloxane, to the coating composition in a range 0.001 to 0.005% (Column 3, lines 34-36), which falls within the recited range of the applicant. One of ordinary skill in the art at the time of the invention would have been motivated to modify Scott based on the teachings from Yang, and employ an antifoaming agent in the coating emulsion in order to avoid unwanted foam. One would have been further motivated to use an inert chemical antifoams based on silicone, such as polydimethylsiloxane, because silicone based

chemical antifoams are quick acting due to lower surface tension, they are non-reactive to other process media and can be added to most compositions, and also remain effective for longer time.

(C) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scott, in view of combination of Nisperos and Liu, as applied to claims 1-2 and 12 above, further in view of Bice et al (US 3674510).

Claims 1-2 and 12 are rejected as being unpatentable over Scott, in view of combination of Nisperos and Liu, as discussed above.,

Regarding claim 5, Scott teaches a coating composition for produce with antifungal agents (Column 3, lines 12-13). However, the reference does not teach the actual amount of these agents in the coating composition. Thus one of ordinary skill in the art at the time of the invention would have been motivated to look to the art to find a coating product used to retard fungal growth in post-harvest produce. Bice et al, hereinafter Bice, teaches a coating composition for produce containing an antifungal agent (Abstract and Column 3, lines 48-55). The Bice reference teaches that 0.4-2 parts per million, i.e., 400-2000 parts per billion of an antifungal compound 2-(4-thiazolyl) benzimidazole (hereinafter TBZ), based on the weight of fruit (Abstract, Column 3, lines 73-75 and Column 4, specially lines 40-45), which falls within the recited range of the applicant for claim 5. Thus antifungal agents in the recited range of the applicant were known to be added to the food coating compositions (Bice). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated to modify Scott and add the antifungal compound in the coating complex in the amount taught by Bice in order to make an effective antifungal coating composition. One would also have a reasonable expectation of success of keeping the coated food in good condition for a desired storage time, temperatures, and other available storage/ transportation conditions.



(D) Claims 1-2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott et al (US 2872325), in view of the combination of Lee (US 4729190). Scott et al., hereinafter Scott, teaches a process of coating perishable foods by an emulsion of polymerized vinylidene chloride, i.e., polyvinylidene chloride (Column 2, lines 20-30), by dispersing in an aqueous phase with 1-5% emulsifier (surfactant) and an additional surface-active agent (Column 3, lines 36-58), which falls within the applicant's recited range of 0.0005% to 10%. Scott teaches solids content of 10-25% (Column 3, lines 2-5), and polyvinylidene chloride content of 88-91% of the total weight of the monomers present in the composition (Column 2, line 25). Thus Scott teaches polyvinylidene chloride content of 8.8 to 22.75% of the coating composition, which falls in applicant's recited range for claim 1 and 12. Scott teaches of a surfactant but is silent about specifically using octylphenol ethoxylates and nonylphenol ethoxylates as surfactants, as recited by the applicant in claims 1 and 12. Thus one of ordinary skill in the art at the time of the invention would have been motivated to look to the art for non-ionic surfactants in food coatings. Lee teaches seed (i.e., food) coating composition with polyvinylidene halide copolymers (Column 4, lines 20-43 and Column 9, lines 35-40), and non-ionic surfactants such as octylphenoxy polyethoxy ethanols (Column 6, lines 15-45). Lee also teaches of Triton-N (trademark) which is described as nonylphenoxy polyethoxy ethanol, i.e., nonylphenoxy ethoxyalte as instantly claimed, in Examples 10-13 and 35. Thus octylphenol ethoxylates and nonylphenol ethoxylates were used as surfactants or emulsifiers in the art of food coating at the time of the invention. Therefore, one of ordinary skill at the time of the invention would have been motivated to modify the surfactant taught by Scott to another surfactant, such as, Polysorbate 80 octylphenol ethoxylates and nonylphenol ethoxylates (as taught by Lee), in order to have an emulsifier that is highly water soluble and to make a suitable coating composition that can be applied to foods as an aqueous suspension. One of ordinary skill would have been further motivated to do so in order to have an emulsifier or stabilizer that is non-toxic and edible and thus is safe to be added to foods.

Regarding claim 2, Scott and Lee both teach as recited by the applicant (Column 2, lines 20-27).

(E) Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scott, in view of combination of Lee, as applied to claims 1-2 and 12 above, further in view of Yang et al (US 6165529).

Claims 1-2 and 12 are rejected as being unpatentable over Scott, in view of Lee, above.

Regarding claim 4, Scott teaches a coating composition for produce with antimicrobial agents (Column 3, lines 12-13). However, the reference does not teach the actual amount of these agents in the coating composition. Since Scott does not disclose a specific range for antimicrobial or antifungal agent, one of ordinary skill in the art would have been motivated to look to the art to find a similar product with antimicrobial agent. Lee teaches of active ingredients that can be antimicrobial or antifungal agents in the coating composition (Column 8, lines 50-52 and Column 10, lines 60-68). The references are silent as to the amount of the active ingredient. Yang teaches a coating composition for post harvest produce and composition taught by Yang contains 0.05-5% antimicrobial agents, such as, triclosan or methylparaben (Column 3, lines 31-33), which encompasses the range taught by applicant in claim 4. It would have been obvious to one with ordinary skill in the art at the time of the invention to modify Scott and add the amount of antimicrobial agent as taught by Yang in order to have sufficient amount of antimicrobial agent in the coating composition to help reduce the microbial deterioration of food. One would have been further motivated to vary the amount of antimicrobial agent in the coating composition as taught by Yang in order to make coating compositions that contain antimicrobial compounds in a concentration that will at least be suitable for the type of produce being coated, length of storage of produce (transportation/ ripening) and desired storage conditions (humidity, temperature etc.), absent any clear and convincing evidence and arguments to the contrary.

Regarding claim 6, Scott is silent as to the addition of antifoam in the coating composition for produce, Lee teaches the addition of polydimethylsiloxane as a surfactant (Column 6, line 29). Regarding the amount of surfactant, Lee teaches of compositions where the surfactant is in the amount of 1/5 to 1/15 of the polymeric composition (Examples 1-10). However, Lee does not teach the specific percentage of polydimethylsiloxane. Yang teaches addition of an antifoaming agent or surfactant, such as polydimethylsiloxane, to the coating composition in a range 0.001 to 0.005% (Column 3, lines 34-36), which falls within the recited range of the applicant. One of ordinary skill in the art at the time of the invention would have been motivated to modify Scott based on the teachings from Yang, and employ an antifoaming agent in the coating emulsion in order to avoid unwanted foam. One would have been further motivated to use an inert chemical antifoams based on silicone, such as polydimethylsiloxane, because silicone based chemical antifoams are quick acting due to lower surface tension, they are non-reactive to other process media and can be added to most compositions, and also remain effective for longer time.

(F) Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scott, in view of Lee, as applied to claims 1-2 and 12 above, further in view of Bice et al (US 3674510).

Claims 1-2 and 12 are rejected as being unpatentable over Scott, in view of Lee, above.

Regarding claim 5, Scott teaches a coating composition for produce with antifungal agents (Column 3, lines 12-13). However, the reference does not teach the actual amount of these agents in the coating composition. Thus one of ordinary skill in the art at the time of the invention would have been motivated to look to the art to find a coating product used to retard fungal growth in post-harvest produce. Bice et al, hereinafter Bice, teaches a coating composition for produce containing an antifungal agent (Abstract and Column 3, lines 48-55). The Bice reference teaches that 0.4-2 parts per million, i.e., 400-2000 parts per billion of an antifungal compound 2-(4-thiazolyl)

benzimidazole (hereinafter TBZ), based on the weight of fruit (Abstract, Column 3, lines 73-75 and Column 4, specially lines 40-45), which falls within the recited range of the applicant for claim 5. Thus antifungal agents in the recited range of the applicant were known to be added to the food coating compositions (Bice). Therefore, one of ordinary skill in the art at the time of the invention would have been motivated to modify Scott and add the antifungal compound in the coating complex in the amount taught by Bice in order to make an effective antifungal coating composition. One would also have a reasonable expectation of success of keeping the coated food in good condition for a desired storage time, temperatures, and other available storage/ transportation conditions.

Thus Scott in view of Lee teaches the invention as recited in claims 1-2 and 12, absent any clear and convincing evidence and or arguments to the contrary.

### ***Response to Arguments***

Applicant's arguments filed November 7, 2007, with respect to claims 1-2, 4-6 and 12 have been fully considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed November 7, 2007, with respect to individual references have been fully considered but are not persuasive as the applicant addresses the limitations added in the current amendment which have been addressed in the office action above.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding the applicability of the individual references, the applicant is referred to the rejection in the above office action.

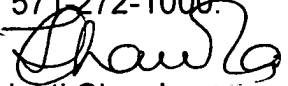
Claims 1, 2, 4-6 and 12 remain rejected for reasons of record, absent any clear and convincing evidence and or arguments to the contrary.

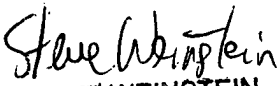
### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jyoti Chawla whose telephone number is (571) 272-8212. The examiner can normally be reached on 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jyoti Chawla  
Examiner  
Art Unit 1761

  
STEVE WEINSTEIN 1794  
PRIMARY EXAMINER  
1/22/08